

REMARKS

Claims 1-20 are pending and at issue. All of the claims stand rejected based on US 2002/0172239 – a publication of another patent application for the present inventor – taken either alone or in combination with a publication to Green et al., US 2002/0126345. Specifically, claims 1, 2, 6-15, and 17 stand rejected as anticipated by the ‘239 publication; claims 3-5 and 16 stand rejected as obvious based on the ‘239 publication; and claims 18-20 stand rejected as obvious based on a purported combination of the ‘239 and the ‘345 publications. The applicant appreciates the examiner’s attention to this matter and review of the recited subject matter. The applicant, however, respectfully traverses these rejections, and, as outlined below, believes that the rejections are based on a mis-appreciation of the differences between the instant application and the cited art.

PRIOR ART REJECTIONS

1. Claim 1 and Dependent Claims 2 - 12

Claim 1 recites an optical filter comprising:

a first filter element having a first angular sensitivity to the reference axis; and

a second filter element having a secured angular sensitivity to the reference axis that opposes the first angular sensitivity to the light.

As described in various examples in the application, the recited subject matter may be used to form angle-independent filters for an optical device. It is this combined effect of the first and second filter elements, the latter having an angular sensitivity that opposes the former, that reduces or removes an optical system’s dependence on the angular orientation of the filtering element. As discussed in the present application, the output frequency of prior art devices depends on the angular position of the optical filters. The present application contrastingly describes examples in which that dependency may be reduced or removed.

The office action rejects claim 1 based on the teachings of the ‘239 publication, which does teach a two-filter wavelength reference device. The ‘239 publication teaches changing the angle of incidence on the two filters for affecting device operation. What the office action appears to misapply from the ‘239 publication, however, is that the ‘239 publication is

directed toward angle tuning, i.e., relying on an etalon pair's angular dependence to change the tuned laser frequency of a laser system. Whether that tuning is achieved using the same amount of angular tuning on each etalon or a differential amount of angular tuning between them, the '239 publication relies on the existence of angular dependence and the free spectral range to tune, i.e., change, the output frequency of the device.

Thus, not only does the '239 publication not teach a technique for achieving angular independent operation, the express reliance on the combined angular dependence of two etalons appears to teach away from such independence.

The paragraph bridging pages 4 and 5 of the instant application, for example, describes examples where filters of different angular sensitivity may be combined in such a way that the properties of the output laser beam are essentially independent of the incidence angle of the beam. In other words, the frequency of the output beam is not altered with changes in incidence angle on the filters. As a result, the filtering apparatus can be used without undesirably affecting the output frequency of the device. The '239 publication in contrast describes and in Figure 7 illustrates using angular dependence to desirably tune the output frequency tuning.

For these reasons alone, the rejections of claim 1 and the claims depending therefrom are respectfully traversed.

2. Further Examples From Some Dependent Claims

While the claims depending from claim 1 are in condition for allowance for the foregoing reasons as well, that is not to imply that these claims are not also separately patentable based on their own recitations. Claim 2, for example, recites that the second angular sensitivity substantially cancels the first angular sensitivity. The office action rejects claim 2 by stating that it is "an inherent feature for the first and second angular sensitivity to cancel, equal, or offset each other." First, the rejection is improper as the office action points to nothing in the prior art as teaching that inherency; instead, the office action merely points to the fact that the '239 publication has two filters. Second, as is well known inherency cannot be based on possibility. Whether one of the three different effects (cancel, equal, or offset) is possible from the '239 publication is not a legal basis for an inherency rejection.

Third, the angular-dependent operation of the filters in the '239 publication would seem to clearly establish that the filters do not have substantially canceling angular sensitivities, else there would be no angular tuning.

Claim 3 recites that the first angular sensitivity is a positive angular sensitivity and the second angular sensitivity is a negative angular sensitivity. The office action rejects claim 3 as obvious in view of the '239 publication. The office action concedes that the '239 publication does not teach positive and negative angular sensitivities, but the office action argues that one could have modified the teachings to include such sensitivities. This obviousness, according to the office action, would have stemmed from a desire for angular etalon tuning. The applicant respectfully disagrees. The '239 publication already describes techniques for angular etalon tuning and without reference to using positive and negative opposing sensitivities. The office action has pointed to no rationale or suggestion why one would modify the '239 publication to achieve the result it already achieves, but in a completely different way. Absent some identification of the specifically recited subject matter in the prior art, the obviousness rejection is improper.

3. Claim 13 and Dependent Claims 14 - 17

Independent claim 13 recites a laser device comprising a filter apparatus having a first angular sensitivity to a reference axis and a second angular sensitivity to the reference axis that substantially cancels the first angular sensitivity. For the reasons outlined above, and notably in reference to claims 1 and 2, the rejection of independent 13 is also traversed. None of the prior teach teaches or suggests the recited subject matter or the subject matter of the claims depending therefrom.

4. Claim 18 and Dependent Claims 19 and 20

The remaining independent claim, claim 18, recites a transponder comprising a filter apparatus similar to that recited in claim 13 discussed above. As such, the rejection of this claim is traversed for the reasons outlined above. Claim 18 and the claims depending therefrom are in condition for allowance.

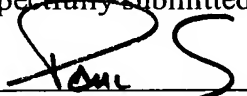
Application No. 10/750,481
Amendment dated February 16, 2006
Reply to Office Action of November 28, 2005

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In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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